

# An overview of the most effective tranquilizer herbs

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**ABSTRACT**

**Background and Objective:** The mental illnesses are one of the main problems in countries. Man has used medicinal herbs to control mental illnesses for centuries. This article reviews available effective sedative herbs that play a role in controlling mental illnesses.

**Materials and Methods:** At first, the authentic traditional texts and the Qur'an and the statements of the innocents were studied. Then, the keywords including mental disorders such as anxiety, depression, nerve restlessness, Parkinson's disease, melancholia, fear, nerve calming, psychosis and convulsion and other disorders, sedative herbs, medicinal herbs, the name of herbs and sedation were searched in PubMed and Google Scholar from 2014 to 2017. The more relevant articles were selected and the most effective tranquilizer herbs were studied.

**Results:** Nearly 50 medicinal plants were found out to be effective in controlling mental illnesses. From the herb list, we selected the most effective ones. Including criteria for the selection of herbs was also the vast spectrum of effectiveness, harmless, and easy availability. Therefore, the 8 following plants had first priority: *Borage officinalis*, *Lavandula angustifolia*, *Valeriana officials*, *Crocus sativa*, *Melissa Officinal*, *Hypericum perforatum*, *Passiflora incarnate*, and *Humulus upulus*.

**Conclusion:** Considering the effectiveness, harmlessness, and availability, the *Crocus sativa* should be used in foods in usual dosage and the other plants as herbal tea separately or in combination.

## 1. Introduction

**M**edicinal plants are used throughout the world for prevention and treatment of diseases for thousands years. In traditional Chinese medicine that dates back at least more than five thousand years ago, Sheng Wung identified 365 plants for first time. This precedent is epistle in different religions. As the valid documents show, some plants grew on the Sanctuary of Solomon (peace be upon him) and he used them to treat diseases. In Islam, usage of medicinal plants for the treatment and prevention of the diseases is associated with the spiritual factors. It is clear that God's wisdom is that he sends pain and

treatment together and God have not sent any pain unless its medication is determined. The great religious men advised the usage of drugs accompanying with the remembrance of Allah because he heals (1-3).

Using medicinal plants to treat diseases and related sciences coincides with human life. Iran with various climates is rich in different plant species and a long history of using herbs for the treatment of various disease. As the great treasures left by the imams and outstanding scientists such as Avicenna and Razi, the history of the use of medicinal plants for the treatment and prevention of diseases can be seen (4).

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In the world, there are about three hundred thousand plant species that are chemically different and a few (less than ten percent) of those pharmaceutical effects, toxic substances, and compounds had been surveyed. There is still much unknown in the world of medicinal plants. Among the well-known medicinal plants, there are even more effective than chemical drugs for treating diseases. Although synthetic drug manufacturers sometimes argue against it and know drugs stronger and more effective than herbs. Some chemical drugs may be more powerful than plants but create more adverse effects too and in addition, their prices are higher than herbal medicines and their effectiveness is not always successful. Therefore, in many cases medicinal plants are more economical, safer and even more effective than chemical drugs. However, among them there are deadly plants such as hemlock that looks like wild parsley. These findings led to the popularity of the use of medicinal plants around the world, even America (3, 5).

Nowadays, mental disorders are a major problem within many societies that is highly prevalent as well as cardiovascular disease. For example, up to 30-40% of Western populations suffer from anxiety disorders. It should be noted that anxiety disorders are the most costly mental disorders. These disorders with main features of fear, doubt and excessive worry imposes large costs including the cost of psychiatric services, psychotherapy, emergency, hospitalization, prescribed drugs, reduced productivity, absence from work, suicide, and so on (6).

Considering the above, in this study, tranquilizer medicinal plants affecting mental illness were reviewed and the most effective ones with history of use, the new findings, their active ingredients, drug interactions, contraindications and other properties were presented.

## 2. Materials and Methods

About 50 tranquilizer herbs are introduced in valid references and eight plant was chosen as the most effective tranquilizer herbs. Plants were selected based on the safety, the impact on a greater range of mental disorders, fewer drug interactions and contraindications, confirmation by reliable sources and great number of studies. For determining herbs with tranquilizing effects,

the ancient books of traditional medicine were reviewed at first. The infallible statements about medicinal herbs in the prevention and treatment of mental diseases were extracted from reliable hadith books. Then, the key words including mental disorders such as anxiety, depression, nerve restlessness, Parkinson's disease, melancholia, fear, nerve calming, psychosis and convulsion and other disorders, sedative herbs, medicinal herbs, the name of herbs and sedation relationship were searched in PubMed and Google Scholar in the years 2014-2016. To validate, the search was repeated twice, and in some cases several times. The more relevant articles were chosen. The most effective tranquilizer herbs were studied. Forty six herbs were selected from retrieved articles and their impacts on mental disorders, contraindications, precautions in consumption, drug interactions and total safety were studied. At last eight medicinal plants were selected as the most effective sedative medicinal plants with different effects on mental disorders and were classified. It should be noted that according to the trusteeship, for the name of mental disorders is used as the same words in the literature.

The most effective tranquilizer herbs were as follows: borage, lavender, valerian, saffron, *Melissa officinalis* (lemon balm), hypericum, passion flower and *Humulus lupulus*.

## 3. Results

### 3.1. *Melissa officinalis*

*Melissa officinalis* or lemon balm belongs to Labiaceae family. *Melissa officinalis* grows in the Mediterranean, Iran, Central Europe and Asia Minor (5, 7, 8). This aromatic herbaceous plant is tranquilizer, somniferous and suitable for stress (9). Majesty Imam Sadiq (Peace be upon him) says one of *Melissa officinalis* (Hook) characteristics is that when placed within the human body, destroys all diseases (10). Lemon balm is one of two main plants used in herbal medicine Valeric, Neurogol Fort and Neurogol that is recommended for anxiety, insomnia and nervous tension. It is used in Tranquival (a herbal medicine) too. In addition to tranquilizing effect, lemon balm is used for hysteria, to slow the progression of Alzheimer's disease, control of high irritability in children and depression (7, 11). Although, there is not any contraindication,

except in people who are sensitive to the plant, but those with glaucoma or prostatic hyperplasia, and take thyroid medications such as levothyroxine should use it with caution. Continuous intake of lemon balm is useful for prevention and treatment of neurological disorders (7, 12).

### 3.2. *Hypericum perforatum*

*Hypericum perforatum* belongs to Hypericaceae family. It is a perennial grass with spoon leaves full of essence holes. Because of this feature, the plant species is called *Perforatum*. *Hypericum* with yellow flowers grows naturally in many parts of Iran. Plant species is named because of Europeans old belief that it repels the evil spirits (13). *Hypericum* has a long history in the treatment of depression and anxiety. Germany's Commission E, which is an expert center for medicinal plants, has acclaimed it as an herbal anti-depressant. It is the best herb to treat depression (5). Recent researches has shown *Hypericum* has antidepressant property and due to the active compounds from Flavonoid groups is used for the treatment of mild to moderate and severe depression as well as anxiety disorders (14-19). *Hypericum* is also recommended for nervous restlessness, menopause anxiety, nervous exhaustion and injuries post accidents (7, 11). *Hypericin* in *Hypericum* have antidepressant effect through inhibition of the mono-oxidase enzyme (20). The other active ingredients of *Hypericum* are *Pseudohypericin* and flavonoids: *hypirin*, *quercetin*, *isoquercetin* and *rutin*. *Hypericum* may reduce the effectiveness of oral contraceptives, protease inhibitors, cyclosporine and the barbiturates. On the other hand, it may enhance the effect of monoamine oxidase inhibitors. *Hypericum* can inhibit the secretion of prolactin reduces the production of milk during lactation (7). *Hypericum* is used in the composition of herbal medicines as *hypiran*, *nervoxin*, *hypifor* and *perforan* that in addition to depression is used for insomnia, anxiety, nervous headaches and migraines (10).

### 3.3. *Crocus sativus*

*Crocus sativus* is from the Iridaceae family. Iran is the world's largest producer of saffron. It is cultivated more in southern Khorasan and Kerman and relatively warm regions. Saffron is exhilarating, tranquilizer, nerve analgesic and

anti-hysterical (11, 21, 22). Saffron has hot temper and in addition to reducing symptoms of depression (23) and is useful in the treatment of depression and major depression (24, 25). Saffron is also used to treat anxiety disorder (26). Saffron contains yellow glycosides called *Krusin* and its bitter substance is *picrocrocin*. It is a nerve tonic because of its *crocin* or *crocetin*. High consumption of saffron during pregnancy and lactation is prohibited. Consumption more than 1.5 grams per day is prohibited. The aroma of saffron is due to the safranin essence (22, 27, 28).

### 3.4. *Borago officinalis*

*Borago* is from Boraginaceae family and an annual herbaceous plant. It naturally grows on the slopes of the Alborz mountains. It has blue petals (13) and its temper is hot and is used for treatment of fear (13, 29). *Borago* is a nerve tonic and tranquilizer and is used for depression (3, 28). *Borago* is an effective and safe drug to treat people with obsessive-compulsive disorder (OCD). Its aqueous extract and decoction is exhilarating. It is helpful for those who speak with themselves (13). In children and during pregnancy and lactation and those who are allergic to, it is contraindicated (26). *Borago* is rich in flavonoids with moderate anti-anxiety and sedative effects (4, 29) and natural flavonoids that bind selectively on benzodiazepine receptors and exhibit properties of benzodiazepines. Despite drug interactions that have been reported from *borago* in studies on rats antidepressant effects as well as the prevention and treatment of chronic stress has been shown (4, 32).

### 3.5. *Valeriana officinalis*

*Valerian* is belonging to valerianaceae family. *Valerian* or cat grass is dry and hot, vasodilator and exhausting (29). *Valerian* root is very effective in the treatment of neurological disorders (21). Its extract is used to make the *Valiris* drug. In addition, *valerian* is a key compound of *Valiflor* - *Tranquival* - *Sedamin* - *Valeric Neurogol* (10). *Valerian* is tranquilizer and its *valerinic acid* is likely to cause an interruption in enzyme system responsible for the catabolism of GABA, *Glutamine* also easily passes the blood-brain barrier and is reabsorbed by the nerve endings and converted to GABA. Increased GABA concentrations decrease the CNS activity and causes tranquilizing effect (20,

21). In addition, valerian is recommended for insomnia and the prevention and treatment of anxiety (33). Its effects on reducing anxiety in women who have been under hystrosalpetgography has been found (34). In addition to the anxiolytic effects of valerian, it is used to treat insomnia, hysteria, depression and nervous restlessness. In addition to its contraindications, the relatively bad smell (foot sweat) in the herbal tea is its weakness (5, 21, 35).

### 3.6. *Lavandula angustifolia*

Lavender is from Labiaceae family. It grows in large areas of Iran, especially the northern Guilan and the center areas as Tehran and Qazvin. Lavender is tranquilizer and nerve tonic. Lavender is helpful for anxiety, depression and nervous restlessness (7, 11). In addition to sensitive to the plant because of inducing abortion, it is contraindicated in pregnancy. Its essence is also contraindicated during lactation (7). Recent studies have reported its effect on reducing anxiety before breast surgery (34). In addition to reducing anxiety, it has also been reported to reduce pain after chest tube removal in cardiac surgery (36). Although neurotoxicity can be its side effect but it shows little drug interactions and can strengthen the effects of sedative drugs (7). Lavender has beneficial effects on the nervous system and Alzheimer's disease (37) and its beneficial effects on Parkinson's disease has been found (38).

### 3.7. *Passiflora incarnate*

*Passiflora incarnate* is from Passifloraceae family. It is a climbing plant that is naturally abundant in the north. Multiple flags shaped it clockwise flowers. Maltol and ethyl maltol, harman and harmaline alkaloids and vetix and Saponarlyn flavonoids are its active ingredients.

Maltol and ethyl maltol may have tranquilizing effects on the central nervous system (13, 20) . *Passiflora* in addition to tranquilizing is a brain stimulator that is caused by Harmalyn and harmine. Recently, several studies have confirmed its tranquilizing, anti-stress, anti-anxiety and anti-seizure and somniferous effects (40-44). *Passiflora* is contraindicated in allergic individuals, during pregnancy and lactation. *Passiflora* has drug interactions with

anticoagulants, anti-platelets, monoamine oxidase inhibitors, CNS weakening such as opioids, barbiturates, benzodiazepines and selective serotonin reuptake inhibitors as well as metronidazole (7). However, the *passiflora* is used to make *Pasipay* and *Pasiflor* herbal medicines which are sedatives and somniferous and are recommended for nervous tensions and insomnia. *Passiflora* is also one of the main components of anti-anxiety *Tranquival* and *Valiflor* medications (10).

### 3.8. *Humulus upulus*

*Humulus upulus* is from the fig *Moraceae* family. *Humulus upulus* is an upward and dioecious plant that naturally grows in north of Iran. Its humor is hot and is tranquilizer. It is applied to treat neurological disorders and addictions to psychoactive drugs (21, 30). In addition to tranquilizing effect, it is antispasmodic and anticonvulsant and the Commission E has approved its oral administration for mood disorders such as restlessness, anxiety and sleep disorders. Its brewed is somniferous and tranquilizer (7, 21). *Humulus upulus* is one of the compounds used in *Tranquival* herbal medicine. That is made for anxiety, insomnia and nervous tensions. Citral is one of its active ingredients (11). In addition to side effects such as reduced cognitive function, sedation, somnolence, anorexia, vomiting, menstrual irregularities, bronchial inflammation, allergic reactions and anaphylaxis, it has drug interactions as well. *Humulus upulus* can strengthen the effect of CNS system weakening drugs, phenothiazine antipsychotics and anticonvulsant drugs. It can also interact with alpha and beta blocker agents, anesthetics, tricyclic antidepressants, analgesics and antiemetics. *Humulus upulus* is contraindicated in patients with uterus, cervix and breast cancer because of estrogenic possible effects of the plant. In addition, it should be avoided during pregnancy and lactation (7, 10, 20).

## 4. Discussion

The great religion men have recommended *Melissa officinalis* for disease control for centuries. This aromatic plant is native to Iran and grows in many parts of the country (7, 9). *Melissa officinalis* is recommended in a vast range of mental illnesses such as anxiety,

insomnia, hysteria, Alzheimer, high irritability and depression (5, 7, 8, 11). Lemon balm is an ingredient of valerian and Neurogol Fort and Tranquival herbal medicines (10). It is a safe plant and has minimal drug interactions. Therefore, continuous usage for the prevention and treatment of neurological disorders is suggested (7, 13).

*Hypericum perforatum* is the best herb to treat depression. *Hypericum* in addition to having a long history in the treatment of depression and anxiety is a safe plant and has the approval of the Commission E. Recent studies also confirmed its beneficial effect for depression and anxiety (5, 14-16, 17-19). *Hypericum* with active ingredients as Hypericin, are Pseudohypericin, hyperin, quercetin, isoquercetin and rutin is used in making herbal medicines. In addition, it is recommended for nervous fatigues and injuries post accidents. Yet, its drug interactions should not be ignored.

*Crocus sativus* grows in many parts of Iran and its preparation is easy (7, 10, 11, 13). Saffron in comparison is among the top plants to control mental illnesses and in addition to tranquilizing and exhilarating is useful for a variety of psychiatric disorders, especially anxiety and depression (11, 24-26). In addition to the aromatic property, another benefit of saffron is that Iran is the largest producer in the world. Although expensive and contraindications, especially avoidance at high dosages, its recommendation for a wide range of mental illnesses is continued (21, 22, 27, 28).

Borage is one of the effective herbal tranquilizers and nerve tonics with high availability and naturally grows in Iran. With hot humor and nearly balance, it is used for a variety of psychiatric disorders (3, 13, 29, 30). Although, in children and during pregnancy and lactation and in sensitive individuals is contraindicated but the study in animal models has been confirmed its anti-anxiety, anti-depression, preventive and treating properties in chronic stress (28, 31, 32).

Valerian root is so effective in the treatment of neurological disorders, which of the herbal remedy. Valiris is made from its extracts. It is one of the four main components of herbal remedies affecting mental disorders (10, 21). Although not native to Iran but is easily

available. In addition to its contraindications, relatively bad smell of it in herbal tea, is the weaknesses of valerian (5, 21). Valerian is effective on relatively wide spectrum of mental disorders and recent studies have also recommended it for insomnia, reduction and prevention and treatment of anxiety (21, 34, 35).

Lavender is another tranquilizing plant that in addition to being easily available grows in different parts of Iran and also has a good aroma. Regardless of the very few contraindications, is nerve tonic and helpful for nervous restlessness, depression, Alzheimer', Parkinson' and especially anxiety. The recent studies confirmed this effect (7, 11, 36-39).

Passion: Maybe all people have seen the climbing plant with flowers similar the watch in the north of the country. The passion flower has sedative substances such as maltol and ethyl maltol as well as brain stimulant substances Harmalyn and Harmine. However, recent studies approved the tranquilizing anti-anxiety, anticonvulsant and somniferous effects of the Passion flower (40-44). Perhaps, having many drug interactions is its weakness but it has significantly low contraindications and its use in the combination of two herbal medicine named Pasipay and Pasiflor with sedative and hypnotic effects is remarkable. The Passion flower is an important compound of anti-anxiety drugs (7, 10).

*Humulus upulus* is the last discussed plant. Commission E has approved it as a tranquilizer. It is relatively safe, In addition to removing neurological disorders, *Humulus upulus* has also been suggested to overcome addiction to psychotropic drugs (7, 21, 30). Regardless of drug interactions and side effects of *Humulus upulus*, it is used for the preparation of medicinal plant Tranquival (10).

To conclude, the most effective tranquilizer herbs are as follows: *Melissa officinalis*, hypericum, saffron, borage, valerian, lavender, passion flower and *Humulus upulus*. Among these plants, it is suggested that saffron despite its high cost, be taken with food without indulgence and the other tranquilizer herbs mentioned above, be used as a herbal tea.

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